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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,273	04/09/2002	Carlo Perego	217721US0 XPCT	1877
22850	7590	12/29/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			DANG, THUAN D	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	

1764

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/019,273

Applicant(s)

PEREGO ET AL.

Examiner

Thuan D. Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a process of cracking of olefins, does not reasonably provide enablement for any unspecified process other than cracking. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The presently amended claims 1-20 are unspecified process which can be any process of producing olefins such as isomerization of olefins, dehydrogenation of paraffin to produce olefin or hydrogenation of highly unsaturated hydrocarbons such as acetylenes to produce olefins. However, these processes which potentially produce olefins are not disclosed by the specification.

Claims 15-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Regarding claims 15, 16, and 20, applicants added new matter into these claims since as indicated by applicants, the specification supports only ZSM-12 not any unspecified catalyst as recited in the claims (see claims).

Regarding claims 17-19, the limitation “for 25 hours or **more**” (emphasis added by the examiner) is a new matter since the word “more” makes the timing go up to indefinite such as a century. Therefore, the specification does not support this timing.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step of conversion of olefinic feedstock to propylene (see claims) since the claimed process is a process of producing propylene.

Regarding claims 17-19, “25 hours or more” is indefinite since it is unclear how long the word “more” cover.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leyshon et al (5,026,936) in view of Rosinski et al (3,832,449).

Leyshon discloses a process of cracking an olefinic feedstock such as hexene into propylene in the presence of a catalyst containing ZSM-12 zeolite (the abstract; col. 3, line 38 thru col. 4, line 19).

As disclosed by Leyshon, the ZSM-12 used for the cracking is disclosed by Rosinski.

Rosinski discloses making a ZSM-12 which has having a silica/alumina ratio of from 20-100 (the abstract).

Leyshon discloses that the feed can be olefin or paraffin or mixture (col. 3, lines 39-45). Therefore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Leyshon process by using any olefin feed having any percentage of olefin to arrive at the applicants claimed process since it is expected that using any feed would yield similar results.

The temperature of the process can be found on column 3, lines 48-50 of Leyshon.

The WHSV can be found on column 3, lines 59-62 of Leyshon.

Rosinski discloses the ZSM-12 containing sodium, but the examiner cannot decide how much the sodium content of the ZSM-12 is (see entire patent to Rosinski). However, it is

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expected that any content of sodium does not affect the performance of the ZSM-12 catalyst.

Therefore, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Leyshon process by using a Leyshon zeolite containing sodium of less than 50 ppm to arrive at the applicants' claimed process.

The activity and conversion of the Leyshon catalyst is expected to be the same as the catalyst used in the claimed process since both is ZSM-12 and having similar silica/alumina.

Rosinski also discloses how the ZSM-12 is prepared including steps: adding sodium aluminate with colloidal silica and tetraalkylammonium hydroxide; crystallization, washing with water, drying, and calcinations, ion exchanging (col. 2, lines 1-25; examples).

It appears that Rosinki does not disclose using tetramethylammonium hydroxide in the place of tetraalkylammonium hydroxide, ammonium acetate as ion-exchange agent, and calcination in air.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Leyshon process by using tetramethylammonium hydroxide as the tetraalkylammonium hydroxide, ammonium acetate as ion-exchange agent and calcination of the catalyst in the air since it expected using any material and calcination in the air or in the absence of air would yield ZSM-12 having similar activity.

Regarding claim 13, although Leyshon does disclose using a ZSM-12 having a silica/alumina of from 150 to 200. however, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Leyshon process by using a ZSM-12 having a silica/alumina higher than 100 such as 150 to arrive at the applicants'

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claimed process since applicants do not show any criticality for using a ZSM-12 catalyst having that range of silica and alumina.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan D. Dang whose telephone number is 571-272-1445. The examiner can normally be reached on Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuan D. Dang  
Primary Examiner  
Art Unit 1764

10019273.20041227

A handwritten signature in black ink, appearing to be 'Thuan D. Dang', written in a cursive style with a long horizontal stroke extending to the right.